Special Issue
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The Classroom Screen

National Film Board of Canada
P. O. Box 6100
Montreal 3
Province of Quebec

All About Glaciers

The National Film Board of Canada and the Department of Energy, Mines and Resources present
A New Kit of Visual Aids
About Glaciation

A complete Multi-Media kit of filmstrips, slides, overhead projectuals with explanatory texts, for learning about glaciers and their effect in shaping Canada's land and life.

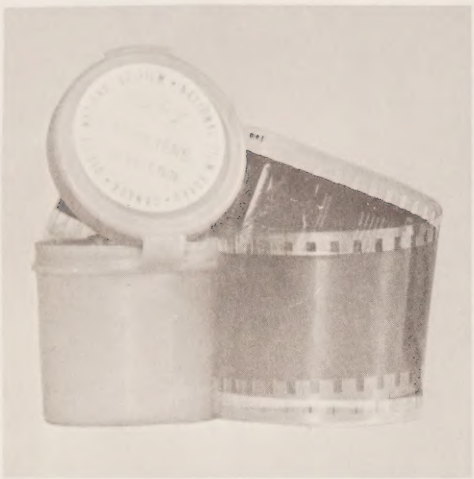
In this Multi-Media kit is provided:

Two color filmstrips:
Glaciers
Glacial Landforms

Two sets of color slides (10 in each):
Glaciation – Part 1
Glaciation – Part 2

Three overhead projectuals:
Development of the Great Lakes
(with manual)

Says A. J. Carnahan, (the chairman of the geography and social studies curriculum section, Ontario Department of Education):
"The outdoors is the best laboratory for observation of physical geography and earth sciences but you can bring more of the world into the classroom. The Multi-Media teaching and learning kit on Glaciation was made to do just that."



Two new color filmstrips:

936153
Glaciers
40 frames, color, captions, manual

A combination of new photography, maps, diagrams and text frames produced with the guidance of the country's best geographers to give students a vivid, accurate view of the appearance of glaciers and the way they are formed and behave. Here are seen the ice caps, hanging glaciers, cirques, valley glaciers, in pictures that make all terms fully understood. A printed manual gives further information and a guide to books on the subject. Technical consultants were Jack Ives, Ph.D. and George Falconer, M.A. of the Geographical Branch of the Department of Energy, Mines and Resources.

936163
Glacial Landforms
46 frames, color, captions, manual

Here are maps and field photography to illustrate the features that result from Glacial Erosion, Glacial Transport and Glacial Deposition. The special erosional and depositional features of Glacio-Fluvial and Glacio-Lacustrine landforms are also included in this filmstrip. The consultants are the same as for *Glaciers*, to which this filmstrip is an apt complement.

The manual with text by Dr. Ives and sketches by Mr. Falconer will be welcomed by the teacher and interested students. Altogether a stimulating view of Glacial Landforms.

Two sets of color slides:

004100
Glaciation – Part 1

Snowfield and Glaciers
Valley Glacier
Valley Glacier
Crevasse
Iceberg
Cirque
Horn and Arête
U-Shaped Valley
Striations
Hanging Valley

004200
Glaciation – Part 2

Moraines
Lateral Moraines
Medial Moraines
Esker
Drumlin
Erratic
Glacial Lake
Kame and Kettle
Continental Glacier
Glacial Ice

Three overhead projectuals:

Development of the Great Lakes
(with illustrated manual by V. K. Prest of the Geological Survey of Canada)

067001
Development of the Great Lakes Part 1

067002
Development of the Great Lakes Part 2

067003
Development of the Great Lakes Part 3

These striking outline maps and their overlays of additional detail illustrate the fascinating history of the de-glaciation of Central North America from which came the Great Lakes of today.
The step-by-step evolution of these great bodies of fresh water from 14,000 up to 6,000 years ago is clearly shown in these three projectual assemblies of outline maps and overlays.

Some films about Glaciation:

(to borrow, ask at your film library)

Glaciation

16mm, color, 11 minutes 25 seconds

A film for junior high school students about the behavior of glaciers and their effect on the land, filmed on and around the glaciers of Canada's Arctic and mountain regions. Now only remnants of the great ice sheets that once covered North America millions of years ago, the glaciers are still one of the most unusual elements of our natural environment, and an amazing repository of geological history. Like other dynamic forces of our earth, glaciation, too, presents a fascinating study — interestingly explored in this film for young enquiring minds.

Scientific adviser: Dr. Fritz Müller, Professor of Glaciology, McGill University.

Riches of the Earth

(revised version)
16mm, color, 16 minutes 20 seconds

An animation film made to show students how the earth's crust was formed and reformed over countless ages by energy inside the earth and eventually the mighty action of glaciers on the surface. For enquiring young minds, this film answers many "hows" and "whys" of our natural environment, particularly how minerals, oil, etc. came to be where they are found.

A Pause between Glaciers?

(from *Face of North America* by Peter Farb)

The million years of the ice age produced four successive sheets with intervening periods of warming, during which the ice retreated northward. The present time is probably another period of interglacial warming, a pause before the advance of still another ice sheet. Parts of the last ice sheet are still very much present, many small glaciers still remain in the Rockies and the Cascades, and many large ones exist in Canada and Alaska. Greenland is almost completely covered by ice, two miles deep in places. Even at its edges, the Greenland sheet looms nearly 2,000 feet above the North Atlantic, and it periodically sends huge icebergs drifting in the sea lanes.

Although the temperatures plummeted during the glacial epochs, extraordinary cold is not necessary for the formation of a glacier. All that is required is that more snow fall during a winter than is melted during the summer. Seen under a microscope, a fresh snowflake has a delicate six-pointed shape. At first the flakes collect in fluffy masses separated from each other by their points. But as the water of which they are composed evaporates, these points are lost. The flakes become rounded and thus fit more closely, in the same way that marbles fit more closely into a jar than do jagged pieces of rock.

As additional snow falls, the flakes become packed together. The flakes begin to merge, first into clusters, then into chunks, until under the weight of additional snow they are all compressed into ice.

Thus, year by year, inch by inch, a towering mound of ice several miles high is built up. Eventually, a time came at which the mound began to spread outward, flowing in much the same way as a thick batter dropped on a griddle. Under its own massive weight, the ice mound behaved rather more in the manner of a liquid than a solid. As the ice kept accumulating, the mound went on spreading outward; it radiated over North America.

Prices:

The complete multi-media kit: $29.00

The individual items in the kit:

Three overhead projectuals (the set): $14.80
Manual for overhead projectuals: $0.50

The color filmstrips: $4.00 each

The color slide sets (10 in each): $3.00

To order please use the post-paid card attached.

For further information inquire at NFB regional offices or write directly to:

National Film Board of Canada
Canadian Division,
Box 6100,
Montreal 3, Quebec.